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ABSTRACT

The increasing costs of higher education and doubts about its importance, and the decreasing marketability of a college degree have made those responsible for appropriating public funds and the consumers of higher education services demand greater accountability from public institutions. These demands, as well as internal demands for greater participation by students and faculty, call for reform in the decision-making processes and in doing so have created a management crisis. The external pressures generated the reform movement advocating analytical management, which is typified by bureaucracy and the scientific method; it uses a systems approach wherein information is assembled for each aspect of an overall operation and then given to those individuals responsible for making decisions. On the other hand, internal forces favor anthrocentric management, that is, a decentralized participatory system with heightened positive motivation for the participants. A philosophical base for the assessment of alternative management models, a discussion of the limitations and dangers of the analytical approach contrasted to the advantages of the anthrocentric approach, and a bibliography are included. (MB)

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ON DECISION-MAKING PROCESSES AND STRUCTURES

By

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JC 780 610

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ABSTRACT

This essay is concerned with a central problem or issue in higher education administration: How should higher education enterprises be managed? On what basis and in what manner should decisions affecting the operation of institutions of higher education be made? The first section establishes the context for the essay by indicating the pressures impelling reform of the decision-making processes in higher education. The second section presents a caveat concerning a commonly employed distinction between different classes of educational decisions. The third section explicates the central features of two management reform movements. The concluding section develops a philosophical base for the evaluation of the competing reform movements and carries out the evaluation.

PRESSURES FOR DECISION-MAKING REFORM

External Forces for Accountability: Higher education institutions in America have been accountable since the founding of Harvard College in 1636. A board of visitors periodically made some variety of on-site inspections of the operations of the college. Yet today 'accountability' is one of the central terms in the vocabulary of those contributing to the literature about higher education. Why is 'accountability' now such a central concept and of such concern? Largely because a complex web of circumstances and events have made the general public, those responsible for appropriating public funds and the consumers of higher education services sensitive to cost-benefit issues.

Between 1963 and 1973 the federal budget doubled. (Wildavsky, 1974) State appropriations for higher education operating expenses have increased 83 percent over the last ten years.[1] (Coughlin, p. 9) During the 1960's enrollments more than doubled while educational costs tripled. (Ford Foundation, p. 20) The magnitude of the dollar increase might give the impression that the student would be in a financially advantageous position. But by 1971, 57 percent of higher education operating expenses were borne by students and their families. (CED)

Another facet contributing to the centrality of the concept 'accountability' relates to the perceptions of the importance of higher education

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[1]Though the percentage of state budgets going to higher education has diminished. According to Millard (p. 48) the percentage of state revenues to higher education was 53.49 in 1969 and 48.90 in 1973.

to individuals and to society. The relationship of a college education to increased life-time earnings and social mobility was an axiom of the post WW II era in the United States. The late 1950's and early 1960's push to technologically match the Soviet's satellite and space exploration capability embeded the premise of the importance of higher education to the national well-being. Rosenzweig points out that the perception of social importance sufficient to require appropriated funds opens the door to questioning by public bodies, citizens and higher education consumers, regarding the degree to which the amounts promote approved or acceptable aims. In the words of John Millett: "When higher education became socially important [it] became affluent, and now that [it is] affluent, [it is] asked to justify [its] economic status. As colleges and universities ask for increased government support they can expect more questions about the effectiveness and efficiency of these costs." (1977, p. 380)

Millett focuses on the implications of changing societal attitudes for institutional autonomy and in the process highlights 'accountability' themes. Changing social attitudes are held to be responsible for reorganization efforts (tied to reforms of the decision-making process) that threaten institutional autonomy. Two basic conditions are cited: "First, is society's doubt about the usefulness of higher education in the next decade. Second, is society's doubt about the cost of higher education." (1977, p. 386) Thus, those conducting the affairs of American institutions of higher education are being impelled to improve the

efficiency and effectiveness[2] of current operations under much closer scrutiny than in the decade of the 1960's. (See also, Folger and Staats.)

One of the key influences contributing to the attitude of doubt regarding the importance of higher education and the cost of higher education is the declining "marketability" of a college degree. Caroline Bird has expressed and popularized much of the thinking along these lines in her book The Case Against College. Though there is much to criticize and argue with in her treatment of the subject she does highlight the fact that in an economic cost-benefit analysis the case for a college education is weaker now than in the past two decades.[3] More scholarly approaches supporting Bird's conclusion are taken by Richard Freeman and Stephen Dresch.[4]

Student unrest during the late 1960's is seen by McNeil to have convinced government officials that the members of the higher education community could not keep their house in order. Brien states that these events prompted many to adopt the view that: "What is needed to bring both budgets and students in line...is a healthy slug of good old-fashioned authoritarian management discipline... ." (p. 2) Thus oversight functions have increased and more close attention to administrative matters is being paid. Improved management became a central concern.

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[2]These concepts draw their meaning from the conceptual framework of the rational/analytic management approach to be explicated later. Refer also to the Morgan paper.

[3]Howard Bowen's Investment in Learning evaluates higher education costs and benefits in a broader context with much different conclusions.

[4]The argument however assumes that the prime purpose of a college degree is seen to be certification for employment.

Millett highlights the impact of some "positive" social concerns on public pressure for higher education reform. He notes that there is:

> ...a disjunction between social expectation about and actual performance within higher education. There has been some doubt that faculties were cultivating useful knowledge, were concerned about civic virtue, were promoting the application of knowledge to current problems, and were maintaining meritocratic standards of academic achievement. (1975, p. 384)

At the turn of the decade one central concern on the minds of those concerned for higher education was the impending sense of a financial crisis.[5] Bowen reports that two of the six special studies of the problems of financing of this period emphasized improved management techniques as a route to greater efficiency. (1974, p. 19) Thus the fiscal worries beginning in the late 1960's provided impetus to the management reform movement.

Internal Forces for Participation: Richardson wrote concerning community colleges that:

> It is very possible that the human relationships which prevail today among students, faculty, administrators and trustees...have never been less promising. The uneasy equilibrium which all social institutions seek to maintain has been disturbed. ...energies...seem to be expended in internal conflict rather than being directed toward the objectives for which our institutions exist. (1971, p. 20)

What is the cause of this nadir? According to Griffiths it is the simple fact that people do not want to be governed. In Richardson, Bolcker and Bender's view:

> The time has come when we must persuade ourselves that the real culprit is not an irresponsible student, a disloyal faculty member, an authoritarian administrator, or

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[5]The Cheit and Jellema documents are classics of the period.

> a meddling trustee. We must begin to understand that the basis of our problem is an outmoded view of human behavior which has led us to define roles in such a way as to exclude students and faculty from the satisfaction of their higher-level needs. (p. 80)

Greater participation in the decision-making processes is being demanded by those affected.

Generation of Two Reform Movements: The influence of these pressures has created a management crisis. The first set of pressures generates the reform movement advocating analytical management, and the second set, the reform movement advocating anthrocentric management.

ON THE EXISTENCE OF DISTINCT CLASSES OF EDUCATIONAL DECISIONS

In the discussion that follows it will be found that several distinctions employed in the literature on decision-making in higher education prove to be less than clear cut. While there is an intuitive or common-sense appeal to such distinctions (as between policy decision/implementation decisions and between decision-making processes/decision-making structures) there prove to be significant interrelations cutting across the lines. These crosses are such that at times the use of the distinctions becomes obfuscating rather than clarifying. Process and structure interrelations will be dealt with in subsequent sections. It remains the task of this section to address the distinction between policy decisions and implementation decisions.

Millett draws a distinction between governance and management:

> Governance has to do with making decisions about essential issues of purpose, program, and resources. The function of management is to plan, in accordance with those governance decisions, and then to act on them... . (1977, pp. 2-3)

This separates decisions about what is to be done or achieved from decisions

about how the objectives are to be achieved.[6] Typically there is held to be a "division of labor" corresponding to these two types of decision-making. Governing bodies are responsible for setting the directions (the policies) with varying degrees of involvement from institutional constituencies. Administration, with varying degrees of involvement from institutional constituencies, is responsible for the implementation plan and, through the activities of the other constituencies, for the achievement of the goals.

The distinction is suspect however because how something is done determines the "what will be attained" of the activity. Thus management decisions are not without policy or governance implications.[7] Herbert

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[6]Corson defines 'governance' in a more all-encompassing way that might at first glance appear not to involve this separation, and the difficulties that go with it. He asserts that:

> ...when I use the term...I am talking about the processes by which decisions are arrived at, who participates in these processes, the structure that relates these individuals, and the effort that is made (or should be made) to see to it that decisions once made are carried out, and to assess the results that are achieved. (p. 20)

This definition appears to fail to recognize that significant decisions are involved in planning and carrying out activities. He makes it sound like decisions are made then we act. We never stop deciding, or at least never should stop the decision process. Doing is regulated behavior and regulation requires an ongoing decision process.

[7]This is one reason faculties are often "on administrators' backs." The administrators view this as faculty interference with clearly administrative functions. But, I would venture that more often than not, faculty concern is motivated by the perception of policy implications of the procedures of implementation.

Simon states:

> ...seeing that decisions are executed is again decision-making activity. A broad policy decision creates a new condition for the organization's executives that calls for the design and choice of a course of action for executing the policy. Executing policy, then, is indistinguishable from making more detailed policy. (1960, pp. 3-4)

Let it suffice to say for now that the distinction between means (how procedures) and ends (what determinations) often fails to be an illuminating one.[8]

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[8]Sharples, drawing on the work of Stufflebeam, maintains that:

> ...all educational decisions may be classified as one of four types: 1. Policy planning decisions to determine goals and objectives. 2. Implementing planning decisions for the design of intended procedures. 3. Operational decisions to utilize, control and refine procedures. 4. Evaluating decisions to assess and react to the degree of consumer satisfaction. (p. 58)

This more finely grained set of distinctions does not avoid the problems mentioned: the categories are interrelated in such a way that a division of labor based upon these distinctions could not be neatly performed. In fact Sharples argues that in the case of classes 1, 2, 4, the application of analytical techniques will fail because they assume too great a partitioning.

TWO MANAGEMENT REFORM MOVEMENTS

In response to the demands arising from the context described in the first section, something of a "management movement" has developed. The "management movement" consists of those individuals who advocate that, in order for those conducting the affairs of institutions of higher education to successfully adapt to the social pressures and financial exigencies of the era, there must be reform of decision-making processes and structures. Advocates of reform focus primarily on the issue of decision-making processes. There are those who advance the view that decision-making must be reformed in the direction of increasing the rationality and empirical base of decision-making. There are others who advance the view that decision-making processes must be reformed in the direction of enhancing the balance between the needs of individuals conducting, and influenced by, educational enterprises and the demands of successful enterprise. The balance is held to be enhanced through extending participation in decision-making.

There are significant interrelationships between these proposals regarding decision-making processes and decision-making structures. Rationalization of decision-making processes, as advocated, tends to promote centralization. While enhancing participation in decision-making tends to promote decentralization.

The Analytical Management Movement: Rationalization of organizational decision-making processes has been promoted from the first quarter

of the twentieth century. During this period the sociological theory[9] of the formal organization was developed. Max Weber was the central contributor to the development of this model. His term for formal organizations with special administrative staff to control and coordinate participants and activities was 'bureaucracy.' A bureaucracy is, first, a formal organization. According to McKee:

> Formal organizations are constructed for the pursuit of relatively specific objectives. It is goal specificity that makes possible for organizations to build a rational structure: that is, one in which activities are organized so as to lead efficiently to a previously defined goal. (p. 149)

Bureaucratic organizatons go further than this. They employ the following characteristics:

> Each person...occupies an office, which exists as an explicit definition of duties and functions separate from the person who holds the office.
> ...relationships...are...among offices, not among persons, hence...impersonal... . ...The spirit...is one of detachment and distance, enhancing the capacity to render rational and objective judgements... .
> ...norms are spelled out...in written and codified form, in quite explicit sets of rules and regulations.
> ...a high degree of specialization of function and areas of technical competence. ...selection of personnel is made in terms of technical and professional qualifications. (p. 152)

Weber held that the bureaucratic form of organization had a technical superiority over other forms of organization: the greatest capacity of achievement.

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[9]The term 'model' is more nearly correct than the term 'theory' because a theory is an abstract descriptive and explanatory and predictive system of concepts developed through empirical research and testing, while a model is in certain cases prescriptive. Thus 'theory' belongs more to the world of science, 'model' more to the world of ideology. 'Model' will be used henceforth. (See Edwards.)

Weber was, along with most other significant early sociologists, an advocate of positivism. Modern life could be improved through the precise application of scientific rationality based on a firm empirical foundation. In fact he held that "...the great modern state is absolutely dependent upon a bureaucratic basis. The larger the state, and the more it is or the more it becomes a great power state, the more unconditionally is this the case." (McKee, p. 211) The bureaucratic organization was "described" and promoted because of its alleged efficiency. Even today books such as McKee's state that the prime strength of the bureaucratic organization is its efficiency.

A second seminal contribution to the rational-analytic decision-making movement came not from the camp of the sociologists but from the camp of the psychologists. John Dewey was concerned with human problem solving capabilities (or the lack of them).[10] From a philosophical perspective Dewey was interested in the logic of inquiry: that is, scientific method. He took scientific method, as he understood it, to be the paradigm of rational problem solving or decision-making. Braden and Brandenburg have adapted Dewey's model to organizational and social policy decision-making contexts. They list the following steps in the process:

1. Identify the the exact problem.
2. Define the terms.
3. Establish standards which any acceptable solution must meet.

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[10]Dewey is not typically discussed as a contributor to the analytical management movement. Yet his approach seems clearly to be an individualized version of the organizational model of scientific rationality and is therefore introduced. Furthermore, criticisms of the Deweyan approach by Brock bear remarkable similarities to and reinforce the criticisms of the contemporary analytical management movement.

4. Analyze the problem. (a) What conditions or situation indicates that the problem exists? (b) What seem to be the causes of the problem? (c) What are the effects or results of the problem? (d) What predictions seem probable concerning the causes, the possible symptoms, and the effects of this problem in the future?
5. Examine the possible solutions.
6. Select a solution.
7. Put the solution into effect. (Brock, p. 4)

The contemporary analytical management movement is composed of those individuals advocating any number of management techniques which go under the heading of systems approaches.[11] According to Corson: "The purpose of such techniques...is to assemble information as to each aspect of an overall operation and to place that information...in the hands of those individuals responsible for making decisions." (p. 145)

Brien indicates the original definition of systems approaches was:

> An inquiry to aid a decision-maker to choose a course of action by systematically investigating his proper objectives, comparing quantitatively where possible the costs, effectiveness, and risks associated with the alternative policies or strategies for achieving them, and formulating additional alternatives if those examined are found wanting. This rests on three highly interrelated elements: (1) a model or simulation of the organization's behavior... (2) a continuous planning cycle...and (3) a coordinated "management information system." (p. 3)

Lawrence credits Schmidltein for sketching the paradigm behind all such techniques. Underlying the paradigm are certain assumptions.

> These approaches assume that a comprehensive list of objectives can be determined in advance, that cause-and-effect relationships can be explicitly defined, and that value systems can be systematically and rationally incorporated into the overall

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[11] PPB(S), Operations Research, Systems Analysis, Cost-Benefit Analysis, etc.

> decision-making process. The...method is to attack a problem with a single grand design that spells out where we are going and who does what. (Lawrence, 1977, p. 15)

Heim asserts that any planning-management system is based on two assumptions:

> (1)...that appropriate and workable models can be developed to predict behavior...and
> (2)...that realistic assumptions can be fed into the models. (p. 2)

It is apparent that this family of techniques is a refinement and outgrowth of the seminal models developed by Weber and Dewey.

The analytical management approach proposes decision-making reform by proposing modifications of the decision-making process. But the decision-making process is not independent of decision-making structures. Thus the reforms proposed have significant implications for organizational structures.

If one can judge from the frequency of citation the degree of relevance of an insight, then the following expression of an insight regarding the relation between process reforms and structural implications is highly significant. Cheit states:

> The theory is well understood by anyone familiar with organizations. Power goes with information. As information goes to higher levels in the organization the power to decide and the practice of deciding goes there too.[12] (1973, pp. 20-21)

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[12]This insight is as old as the modern idea of knowledge and has a broader applicability than indicated by Cheit. Bacon (1561-1626) was one of the earliest men to understand something of the fundamental nature of modern science, its departure from medieval modes of acquiring knowledge, and its implications for controlling nature. Knowledge of the variety the new sciences were developing opened the gate to new paths to power. (See Jones.)

In other words, modern analytical management techniques, which employ comprehensive information systems, encourage centralized decision-making and thus pose a threat to institutional or departmental or college autonomy.[13]

Griffiths presents the following characterization of the education administration paradigm:

> The paradigm consisted largely of the Getzel-Guba social systems model, role theory, decision theory, bureaucracy, and systems theory. The theories held many assumptions in common. They assumed that organizations have goals that the members strive to attain, that there are roles, sets of expectations for members that are agreed upon..., that decision-making is a systematic process, that only legitimate power is employed, and that merit is superior to politics. Administration, organizations, and organizational behavior were viewed as essentially orderly and rational.[14] (p. 2)

All of these features of systems approaches have implications for "centralization." The development of an institution-wide simulation model (or system-wide) for use in a continuous planning cycle, requires the involvement of persons with an institution-wide perspective who can continually devote their attention to institution-wide issues and future concerns. Top administration is the only group with these requisite characteristics. It has been reiterated in the literature that the information system home in the formal organization be at the level of the primary users to insure its proper establishment and function. Thus, in order for these analytical management techniques to function, information

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[13]See also Harcleroad and Millard.

[14]It can be correctly inferred from Griffiths use of the past tense that he no longer believes this to be the appropriate or workable paradigm for educational administration.

must flow to a center high in the organizational structure. Decisions are then reached on the basis of the analysis from this point in the organizational structure.

The Anthrocentric Management Movement: Bender and Richardson note that a traditional definition of management---getting things done through other people---employs a notion "of manipulation which is repugnent to the educator... ." (p. 14) They report that an increasing acceptance among community college administrators of a definition of management without this feature: that of the American Management Association. This association defines 'management' as:

> Guiding human and physical resources into dynamic organizational units that attain their objectives to the satisfaction of those served and with a high degree of morale and sense of attainment on the part of those rendering the service. (p. 14)

This definition has ties to both management reform movements discussed previously. The tie to the former is through the concept of 'objectives.' The tie to the latter is through the concepts of 'morale' and 'sense of attainment.' Bender and Richardson analyze the motivation theories of Maslow and Herzberg and the related theories of McGregor, Blake and Mouton, Reddin and Likert. The conclusion drawn is that the higher level needs---needs for achievement, recognition and responsibility---are the primary source of motivation for those engaged in higher education enterprises. It is the contention of Bender and Richardson that:

> Opportunities for individuals to participate in the determination and evaluation of their work tasks, whether students, faculty or administration, will foster greater intrinsic motivation. (p. 19)

As was alluded to in the initial section these authors believe that feelings of alienation and estrangement on the part of faculty and

students has led to challenges of decision-making structures and processes. They believe that this alienation generates dissatisfaction among these constituencies which produces conflict with the administration. The net result is that vital energies are absorbed which should be channeled into promoting institutional aims. (Richardson, 1971, p. 20) Participation in decision-making is proposed as the key to channelling those energies back into the "system." This would have the dual effect of contributing to institutional efficiency and effectiveness and generating positive motivation as opposed to negative motivation.

"Participation" has not been as burning an issue in four-year colleges and universities when compared to the community colleges. The fundamental reason for this is that the traditions of disciplinary autonomy are much stronger in the four-year institutions and the fact that the community colleges developed on the secondary school model. But the threats to institutional autonomy now highly discussed draw support from the participatory proponents as well as from arguments based on traditional grounds of academic freedom. Harcleroad adds further fuel to the decentralization theme by citing evidence from business and industry that decentralized operations have empirically been found to be highly efficient and effective. Whether this is a consequence of the heightened positive motivation generated by the "participatory" structure is an open question.

A CRITIQUE OF THE ANALYTICAL MANAGEMENT REFORM MOVEMENT

Objection to Implications About Structure and Reply: In the last section it was argued that analytical approaches, and the comprehensive information systems which are a core ingredient, foster centralized focusing of the institution-wide planning and decision-making functions. Because, only from the vantage point of "tree-top" centers can institution-wide issues and problems be dealt with. This gives the impression that analytical approaches necessarily make top-level administration the decision-makers and thus move decision-making away from lower organizational centers and deprive individuals at lower levels of decision-making functions; and deprive the organization of this level of vital input. This implication does not hold. It is entirely possible that lower level personnel are brought up to the "tree-top" to be involved in the decision-making regarding their areas. Thus it is true that decisions would come to be made from the "tree-top" point in the organization but not necessarily true that this is done in a way that negates the participation of the lower-level personnel. Nevertheless, several factors come to bear to reduce the likelihood of this possibility to near zero. First, those in the "tree-top" centers will have acquired an in-depth familiarity with the information base for the decisions. They will consider themselves experts who think about these matters full-time. When lower-level personnel are brought in they would be viewed as individuals with narrow perspectives and argued down consistently. Secondly, individual unit problems would rarely be a decision-making concern in isolation from other

system components. Individual unit personnel would resent having to extend their interest into areas which are of no concern to their primary activities. Thus participation would not be that effective. Decisions would tend to be made by those with the full-time institution-wide perspective: top administration/system administration.

Dangers Inherent in Centralized Analytical Management: Increasingly the issue of management reform is bound up with issues of coordination and multi-unit governance structures. As a consequence of the education amendments of 1972 every state now has some form of state-wide planning, coordination or governing body. These have various degrees of oversight and management functions. But all serve in some sense to encourage accountability to the public which bears increasingly high costs for the operation of educational institutions. Another form systemization takes is placing higher education operations under an executive agency of the state.[15] Recent proposals on the federal level for a cabinet level department of education gives a further inkling of things to come.

What appears to be occurring is the formation of information and decision-making channels first from within institutional units to the top administrative structure and beyond to the state level and to an increasing degree the federal level. I have presented several arguments for the conclusion that these trends are mutually compatible with and draw support from the analytical management movement.

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[15]Higher education scholars and practitioners prefer the coordination, planning or governing board patterns of systemization over the state agency form. As Millard says: the question is no longer one of whether to have oversight and systemization but rather the question concerns what kind we should have. See Glenny also.

The "coalition" just described may function to increase the political influences on higher education and to increase the management or operational functions of the bodies or agencies outside the institutional level.[16]

First, consider the implications for detrimental political influence through an example and analysis of implications. Strickler has written about the educational division of the Federal Aviation Administration. This agency is a federal executive agency but since it was established by Congress it receives its direction from both the legislative and executive branches. One of the functions this agency is involved in is the certification function. Regulating American aviation involves regulating the standards for employment in the sector. But since the agency is a part of the political system it is subject to political currents which might not always serve truely educational functions. For example, Strickler

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[16]In the Dartmouth v. Woodward case of 1879 Daniel Webster eloquently argued for the insulation of higher education institutions from political influence. He said:

> It will be a dangerous, a most dangerous experiment to hold these institutions subject to the rise and fall of political parties, and the fluctuations of political opinions. If the franchise may be, at any time, taken away or impaired, the property also may be taken away, or its use perverted. Benefactors will have no certainty of effecting the object of their bounty; and learned men will be deterred from devoting themselves to the services of such institutions...colleges and halls will be deserted by all better spirits and become a theater for the contentions of politics.

Although today's needs for governmental financial support does carry with it legitimate ties to political currents and interests the essence of what Webster had to say is still highly relevant.

lists three major aims for the agency; a citizenship goal, an economic stimulus goal, and a social justice goal.

> 1. To develop an awareness in the general public of the role of aviation and transportation so vital to an informed decision-making citizen.
> 2. To motivate parents, educators, industry, and local, state and federal officials with common interests to implement aviation career education...to assure an adequate flow of...personnel for aviation/transportation occupations.
> 3. To provide opportunities for minorities and women to select and become qualified for careers in aviation and transportaion. (p. 8)

Behind these aims is a motive: to promote aviation. Strickler quotes a Kennedy task force, whose report formed the basis of F.A.A. direction, as "observing": "...a pressing need that the new technology and its implications be understood and <u>appreciated</u> by all Americans if they are to <u>support</u> and <u>participate in</u> programs designed to <u>exploit</u> this technology for the benefit of society."[17] (pp. 9-10) This quote is related to the citizenship aim. But the italicized portions show a bias that begs a central question: Maybe an informed citizenry would choose <u>not</u> to use the new technologies. One further quote brings out the full force of the issue. "Underlying it all is the need for an enlightened electorate <u>responsive to the demands</u> of technology."[18] (p. 10) On some peoples' view an "enlightened electorate" would never be responsive to "the demands of modern technology." Rather it would make modern technology responsive to the needs of people. The language suggests that some of the educational efforts are more on the side of propoganda than education. That is, teach

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[17]Italics added.

[18]Italics added.

people to use and be supportive of the industry, not critical and evaluative: directed not directive.

It seems apparent that national interests as defined by Congress under significant pressure from the aviation industry has significant impact on the educational direction of the F.A.A. This is distinguished from the training direction which might also be subject to political pressure.

To sum up this first consideration: there is a danger in educational programs being too closely directed by government agencies or bodies. It is important to add this last qualification of "bodies." For coordination and governing bodies may very well take on more and more of the characteristics of government agencies over time. Thus the lessons learned from studying the F.A.A. case may give significant clues as to what to expect down the road.

A second "case study" concerns the planning function currently emphasized by the federal government. Phillips presents a very cynical view of the planning process. He indicates that even the very best planning is always undone by unforeseen circumstances. This being the case, what is there for planners to do? Patch up plans that do not work out. What does this involve? In Florida where Phillips gained his experience, it amounted to interventions into institutional operations to make the whole system survive. One might say, along the lines charted by Cheit, that operations and decision-making follow planning and information to the higher levels. Those who have collected the information, developed the plans, and watched circumstances change, then get involved in administering the system out of the crises encountered. And what administrative

expertise do planning bodies have? All those recommended by analytical management proponents: a data base for a comprehensive information system, simulation models, etc. Planning and coordinating bodies are well set to be administrative centers. And since long-range planning is virtually impossible to conduct successfully, the tendency will be for operational functions to increasingly acrue to these centers.

Epistemological Limitations of the Analytical Management Approach: White conducted a research study to determine the relevance of formal decision theory (systems analysis, operations research) to practical decision-making. In the preface to his book he issues the following advice:

> We all know of the expert who can act 'appropriately' without being able to retrace his thought process. This phenomena cannot be ignored.
>
> Formal reasoning, whether orally, by hand or by computer, can be cumbersome. It is expensive in time, effort and money, and it is by no means certain that a 'well reasoned' argument should always replace the processes mentioned above. This applies, in particular, to the popular term 'quantification', and it must not be supposed that quantification, at any degree of refinement, is necessarily to be sought after... . (pp. vii-viii)

White recognizes that all formal analytic techniques rest on formal reasoning: deductive logic (which encompasses mathematics). No matter how perfect the reasoning (i.e. formal validity) the outcome (conclusion) may always be false. This is because the truth of conclusions in deductive arguments can only be guaranteed if the premises are true. In systems analyses the premises amount to two classes of propositions. First, those stating the relationships between variables. Second, those stating data regarding variable measures. Both types of premises are often far from certain. Thus the analyst must go beyond deductive reasoning to inductive reasoning for the source of models and inputs. But here we run

into the fundamental problems of probability and uncertainty which have been the stumbling blocks to propogandists for science and positivism since the time of David Hume. Systems analysis models and input data are based on trend data. Hume showed that there is a fundamental sense in which trend data can never be regarded as reliable.[19] Thus reliance on the decisions produced by such techniques must rest on a rationally unfounded faith in technique for technique's sake. And may, as has been noted in the literature, give an excuse to those in positions of authority for not facing and coping with tough decisions.[20]

There is no doubt that systems analysis techniques are the avant guard of social science. But the avant guard of social science belongs in the research domain not in the implementation domain. Fund the National Center for Higher Education Management Systems. Let them study and refine and study and refine. In decades the fruits of their labors may provide the nectar to sustain weary decision-makers. But in the meantime there appears to be little ground for granting implementation level authority or credibility to decisions reached on these bases.

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[19]I have argued in support of this position at length in "The Frequency Interpretation and the Problem of Induction," unpublished.

[20]Dresch says the use of analytical management techniques encourages "entrepreneurial pseudo-scientism;" for where there are important unresolved policy issues that must be addressed in the face of inadequate knowledge and time, computer analysis makes it easy to cover up the lack of knowledge with massive detailed data reports. Giving the appearance of rationality is too tempting. (1975, pp. 246-47)

Enarson puts the point simply: "Too often these new tools and techniques create the illusion of planning and thus distract us from facing issues." (p. 174)

Philosophical Base for the Assessment of Alternate Management Models: Educational administration must be grounded in a philosophical conception of education for it is the educational process administrators administrate. R. S. Peters has developed among the most thorough and up-to-date philosophical conceptions of education. His analysis will provide the philosophical base for the assessments to follow.

There are two components to Peters' philosophy of education. The first is metadisciplinary in Frankena's sense. Peters presents and defends an analysis of the concept education. He argues that 'education' is a concept which "lays down criteria to which activities or processes must conform" if they are to be educational. (1966, p. 25) The second component is normative or disciplinary in Frankena's sense. He develops and argues for the justification of a normative base for educational activities and processes which meet the criteria of the concept of education.

The first component of Peters' philosophy of education can be summarized briefly.

> ...the criteria implicit in the central cases of 'education' are... (i) that 'education' implies the transmission of what is worthwhile to those who become committed to it; (ii) that 'education' must involve knowledge and understanding and some kind of cognitive perspective, which are not inert; (iii) that 'education' at least rules out some procedures of transmission, on the grounds that they lack wittingness and voluntariness. (1966, p. 45)

The first criteria concerns the "matter" of education, the second the "cognitive perspective" of education and the third the "manner" of education. (1966, p. 46)

The second component of Peters' philosophy of education fills out this, for the most part, normatively neutral schema. He characterizes education as the initiation of newcomers into public forms of discourse. The central questions public forms of discourse take shape around are: Why do this rather than that? What should I do? Taking this to be the case leads naturally to conclusions concerning the matter of education (curriculum activities) the cognitive perspective of education (being able to synthesize diverse elements into a coherent focus on the central questions) and the manner of education (procedural requirements that do not violate the presuppositions of multiple centers of consciousness seriously asking and seeking answers to the central questions). The central procedural values Peters argues for are those of justice, freedom, and respect for persons.

Threats to Embedded Values: Bowen addresses two key themes that must be considered in an analysis of the analytical management movement.

> ...planning in the style of business management tends to focus on variables that can be quantified to the exclusion of other variables, and it assumes the presence of a management which has the power of command over the organization. (1977, p. 1)

It is his thesis regarding the first theme that:

> ...academic planning worth anything will take into account all the benefits whether or not they are readily quantifiable, and will consider all the costs whether or not they are quantifiable. Educators should insist on looking squarely at the means and the ends in human terms. (1977, pp. 1-2)

This last point, referring to the human dimension, draws support from the second management reform movement discussed above. It also draws support from the writings of Peters. Peters presents argument to the effect that

the whole manner of considering educational policy issues by trying to define aims, goals, and objectives of education, rather than in education, is based on a conceptual mistake. The salient point is that if the discussion focuses on aims of education, then the issue of means comes to focus on the efficient and effective promotion of the chosen ends. This neglects the fact that values are embedded in the manner in which things are done. In other words, focusing on means/end relations may make us lose sight of a moral dimension of prime importance.

> ...the model of means to ends is not remotely applicable to the transaction that is taking place. Values,...are involved in the transaction; if they were not it would not be called 'education'. Yet they are not end-products or terminating points of the process. They reside both in the skills and cultural traditions that are passed on and in the procedure for passing them on. (1973, p. 129)

Part of the value of education is wrapped up in processes and procedures which may not be strictly speaking aimed at some end. Nor are they susceptible to cost-benefit analysis in the strict sense. Nonetheless it does cost to educate people, and significant values are promoted. But there are no easy or formula based means of calculating whether education is worth the price. As Bowen says: "...the principles of production in higher education are only vaguely known except through tradition, intuition, and judgement." (1977, p. 3) In the final analysis this may be the fundamental truth of the matter.

Ben Lawrence amplifies the first theme Bowen raises. He states:

> One of the most fundamental misconceptions about the application of quantitative and systematic approaches to higher education management is the persistent impression that the purpose of these approaches is to solve problems for management or

> to make decisions outright. This is not the case... management of higher education is simply too complex a task to be reduced to a set of routinized numerical procedures. (1977, p. 11)

And Lawrence admits that he and others involved in the development of such quantitative techniques may, through their overzealousness, encouraged this misconception.[21] He further develops his thought on management in higher education by saying, in a way that builds bridges to the anthrocentric management movement:

> ...the manager in an institution of higher learning must continually synthesize a plan of action from two aspects of reality: (1) a world of people, human values, preferences, aspirations, and interpersonal dynamics and (2) a world of things, facts, dollars, resources and constraints. The creativity of this synthesis is the fundamental measure of a higher education manager's effectiveness. ...Quantitative approaches are only one of many supports needed by the higher education manager.[22] (1977, pp. 11-12)

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[21]Griffiths makes a similar apology regarding the overzealousness of organizational theory proponents.

[22]Lawrence's conclusion is supported by Crowson, who argues that the "Rational Model" of decision-making is one of three that are basic to educational planning. (p. 4) The other two models are the "Organizational Process Model" and the "Political Model". The organizational process model is based on the idea that:

> Policies...are a function of...organizational routines, matters of organizational "health", the norms and values of organizational actors, the programmatic repertoire of the organization, and problems of organizational control. (p. 9)

and that;

> ...all of these constraints...operate to guide and limit the alternatives available to policy-makers. (p. 11)

The political model is founded on the idea that:

> Policies which are pursued are a function of the pulling and hauling, the give-and-take, that is politics. Planning and policy making is a process of conflict and concensus building. (pp. 15-16)

Schmidtlein's incremental/remedial approach incorporates all. See below.

The second theme introduced by Bowen sheds light on the tendency of analytical management to require centralization. Schroeder also makes this point, in a backhanded way. He states that: "Comprehensive systems are difficult, if not impossible, to implement in higher education because decision-making in colleges and universities is diffuse, decentralized and political in nature... ." (p. 102) I would argue that the pressures of external accountability demands and of analytical management proponents impels changes in higher education to make the assumption true through centralization and all that it entails. The central question raised in discussion of Bowen's first theme recurs: Can what is gained in the transformation in the way of efficiency possible "outweigh" what is lost in terms of values embedded in traditional modes of functioning?

Lawrence has a further glimmer of insight on this point. In a conference address he asserted that we must be careful not to undercut unknowingly important values of higher education through the use of analytical management techniques. Management concepts and techniques must, in his opinion, be compatible with the purposes of higher education. Rourke and Brooks echo the point as well: "...educational outputs cannot be measured...any attempt to do so is ludicrous if not actually subversive of the purposes for which academic institutions exist... ." (p. 8)

The Central Criticism: All of the techniques within the analytical framework require the specification of outputs in an operationally measurable way. Without this, the techniques cannot employ their function of analyzing relations between inputs and outputs. The central criticism is that the outputs of higher education are difficult to define and measure in quantitative terms. Bowen has championed the anti-quantification position. In 1974 he said:

> ...since efficiency is a ratio of cost to output, meaningful measures of efficiency will never be wholly quantifiable and will always be partly judgemental. (p. 19)[23]

Lawrence has recently addressed this central criticism:

> Perhaps the most visible limitations concern the issue of quantification itself. Many higher education outcomes are simply not susceptible to description in quantitative terms. (p. 45)

The comprehensive/prescriptive paradigm, schematized by Schmidtlein, requires certain assumptions about the decision-making context.

> 1. The technical analysis of problems, goals, and change strategies produces sufficient understanding and agreement to permit the establishment of goals and priorities... .
> 2. The area subject to planning is sufficiently understandable so that crucial causal relationships can be determined, technologies for change can be developed, and outputs can be identified and measured... .
> 3. The economic, social, human and information resources necessary to design, implement and evaluate plans must be available... .
> 4. ...the environment must allow sufficient time for analysis... .
> 5. The consequences of planning must serve positively the functional requirements established by the roles of key actors. (pp. 28-29)

These assumptions cannot be met. In Brock's words:

> The rational approach to decision-making being comprehensive, it assumes that <u>all</u> facts are collected and <u>all</u> the alternatives are considered. ...the problem-solver is forced to be more selective. With rapidly changing circumstances and the quantity of material... no one person or group of people can possibly collect and analyze all the facts, so one is always deciding and acting upon incomplete

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[23]Bacchetti notes that as a result cost-benefit analysis in higher education is really cost-cost analysis.

> information. Also, peoples' value systems prevent them from really seriously considering all alternative solutions... . Often attitudes or earlier actions establish a pattern or precedent which closes out many possible solutions ... . (p. 5)

Millett highlights that the group of management tools under discussion here were originally developed for business and industry. In order to believe that the techniques are applicable to higher education a transferability argument is required to the effect that "...an administrative science is common to all social institutions... . That regardless of the end product managerial processes are the same." (1975, p. 221) He argues that the transferability argument is fallacious: "...different outcomes are not produced by a common technology, and common sense concludes that in the absense of a common technology, common managerial processes may be absent also." (1975, pp. 221-222)

Morgan highlights the central critical theme.

> Noting the utilitarian and positivistic ancestry of most of the literature on rational decision making, Friedland concludes that the literature from this field treats values "solely in terms of the utility associated with particular outcomes... . ...All procedural notions of value have been excluded."...a university does its best work by creating an <u>environment</u> conducive to intellectual development and the advancement of knowledge. An important part of that environment...is how and by whom decisions are made. (pp. 12-13)[24]

<u>Anthrocentric Management Reaffirmed</u>: The incremental/remedial paradigm, outlined by Schmidtlein, does not require these assumptions. "In a sense, it is a method for coping with high levels of uncertainty and

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[24]Further insight can be gained by noting that it is Benthamite utilitarianism not J. S. Mill's which is the ancestral theory.

conflict that are not easily solved by organized analysis." (Schmidtlein, p. 29) The assumptions of this paradigm are much different than those of the comprehensive/prescriptive paradigm. It assumes:

> + ...an environment which necessitates a continuous, gradualist approach to decisions.
> + that it is difficult to specify the ends or objectives of public programs and virtually impossible to separate means from ends... .
> + it is difficult to predict consequences that will result from the employment of any particular means... . The connections between cause and effect cannot be unraveled by prior analyses. (pp. 30-31)

The paradigm based on these assumptions possesses certain virtues. As listed by Schmidtlein these are:

1. The paradigm assumes that the presence of conflict over values, problems, goals, change processes, ideologies, and expectations. The decision process diffuses and decentralizes these conflicts and operates on the basis of mutual accomodations. Focusing attention on individual actors, rather than on central planners, creates a sense of the difficulties of social change and tends to inhibit utopian, revolutionary aspirations. If decision-making is a collective uncoordinated process then a change in leaders is not completely effective solution to social ills. Change is a structual and educational process as well.
2. The paradigm does not assume that the nature of a policy area must be understood prior to decisions. The nature of policy areas is discovered through reactions to decisions and actions and, therefore, the process is remedial. Less information has to be collected and analyzed centrally if those who initially possess the knowledge are also relevant decision-makers. There is explicit recognition that information is a resource, subject to exchange in the marketplace, and is not freely provided to policy makers.
3. The paradigm does not require the centralization of analytical resources and decision power. The question of whose goals are to be served is resolved by political bargaining processes, not by central authority.

4. The paradigm recognizes limitations of time and locational perspective placed on analysis. Each actor is permitted to "satisfice"...in terms of the complex set of trade-offs unique to any particular circumstance. Inconsistency is permitted and controlled through bargaining, thus providing for conflicting values and experimentations in the face of uncertainty. The self-interests and limited perspectives of individuals as a result of their locations and roles in the organization, bring out the consequences of choices and are not solely viewed as obstacles to change since consistency is not an overriding requirement.
5. Accountability is maintained through bargaining arrangements between individuals. Central policy-makers are not held accountable for matters over which they have no control. The diminished role of central policy-makers reduces the distance between those who make significant decisions and those who are affected by them; thus increasing sensitivity to the problems and desires of all parties. Freed from the inevitable uniformity of centrally developed policies, easier and more responsive accomodations to local circumstances are possible. Decision-makers possess more relevant facts and are less likely to view those affected by their decision in detached and abstract terms. (pp. 32-33)

This passage has been quoted at length because it reflects a summary criticism of the analytical management reform movement. It also seems to reinforce the position of the advocates of the anthrocentric management reform movement. Furthermore it provides a vehicle through which the theme of embedded values from Peters' can be tied to some aspects of the human relations movement. For Schmidtlein's list of virtures exhibits an approach that has embedded in it a deep committment to the value of respect for the human individual.

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